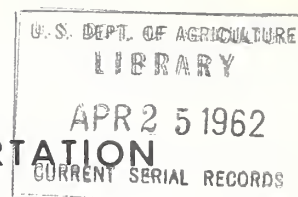


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EMPLOYMENT AND OUTPUT IN THE TRANSPORTATION INDUSTRIES, 1939-58 ^{1/}

Transportation costs make up around a tenth of the marketing bill for farm food commodities. This proportion has not changed substantially since 1939, with the exception of the war years. Products of agriculture, ^{2/} including animals and animal products, account for around 16 percent of total railroad freight revenue and about 12 percent of the railroad tonnage carried. In motor carrier freight, products of agriculture, including animals and animal products, make up about 9 percent of gross freight revenue and about 7 percent of the tonnage.

Intercity Freight Movements

Intercity ton-miles of all freight carried by both railroads and motor-trucks have increased since 1939 (table 9). Railroads are still the largest intercity freight carrier, though their proportion of total freight carried has been declining. Since 1947, the proportion of freight carried by motortrucks has increased substantially. Intercity ton-miles of freight hauled by motor-truck carriers increased steadily; during this same period, intercity ton-miles of railroads have varied irregularly, with the total for 1958 lower than those for several years. ^{3/} A decline in general business activity probably caused the sharp reduction in ton-miles of freight carried by the railroads in 1958 and also in 1949 and 1954.

Employment by Transportation Industries

Railroads employed about 959,000 persons in 1958. ^{4/} From a high employment in 1920, the number of employees declined until 1940, increased from 1941 through 1945, and then began a decline that has been interrupted only by an increase in 1951. ^{5/}

In 1958, an estimated 673,000 employees were engaged in highway freight transportation--an all-time high employment--reached by a steady increase since about 1930. The trucking industry has increased employment about 130 percent since 1939, whereas the railroads have cut employment by 13 percent since that date.

^{1/} Prepared by Imogene Bright, Agricultural Economist, Mktg. Econ. Res. Div., Agr. Mktg. Serv.

^{2/} Includes nonfood items such as tobacco and cotton.

^{3/} Includes intercity ton-miles of Class I, II, and III intercity common and contract motor carriers; does not include private trucks and for-hire trucks not subject to economic regulation by the Interstate Commerce Commission.

^{4/} These data represent total employment including employees engaged in passenger service.

^{5/} Employment figures are those reported by the U.S. Department of Commerce on a full-time equivalent employee basis. Published railroad employment data do not separate employees engaged in passenger from those engaged in freight

Footnote 5 continued on next page -

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U.S. Department of Agriculture, Agricultural Marketing Service, Marketing Economics Research Division.

Table 9.--Indexes of ton-miles of freight and employment, railroad and highway trucking industries, 1939-1958

(1939 = 100)				
Year	Intercity ton-miles		Employment <u>3/</u>	
	Railroads <u>1/</u>	Highway trucking <u>2/</u>	Railroads	Highway trucking
1939	100	100	100	100
1940	112	105	104	111
1941	142	137	115	130
1942	190	143	129	138
1943	217	146	138	137
1944	220	139	145	135
1945	204	139	146	138
1946	178	155	141	153
1947	196	192	139	159
1948	191	238	136	167
1949	158	244	122	166
1950	176	334	124	181
1951	193	368	130	198
1952	184	361	125	205
1953	181	389	123	214
1954	164	368	109	211
1955	186	422	108	225
1956	194	423	108	236
1957	185	429	102	239
1958	166	433	87	231

1/ Includes express and mail.

2/ Intercity ton-miles of Class I, II, and III intercity common and contract motor carriers of property, operating under Interstate Commerce Commission authority.

3/ Full-time equivalent employees. Full-time equivalent employment measures man-years of full-time employment of wage and salary workers and its equivalent in work performed by part-time workers. Excluded are estimates of employees engaged only in rail passenger service and trucking employees engaged in warehousing.

Based on data from U.S. Department of Commerce, Interstate Commerce Commission, and American Trucking Association.

Footnote 5 continued -

service. There are 128 separate job classifications reported by the railroads; of these, 16 were omitted in this study because they pertain solely to passenger service. In addition, part of the workers engaged in maintaining way, structures, equipment, and stores should have been allocated to passenger service and omitted in these estimates, which are for freight service only; however, data for such allocation are not available. Employment data used for the trucking industry were those reported for trucking and warehousing combined. The total was reduced by subtracting the estimated number of persons engaged in warehousing, based on a study made in 1958 by the Bur. Labor Stat.

The railroad labor force includes a number of separate occupations differing widely in degree of skill. Six major classifications are: (1) Executives and general and divisional officers, together with staff assistants; (2) professional and clerical groups, which consist of clerks, stenographers, traffic agents, inspectors, engineers, attorneys, accountants, etc.; (3) employees who maintain way and structures, such as section laborers, carpenters, painters, ironworkers, inspectors, and electricians; (4) workmen who maintain equipment and stores, such as helpers, general laborers, and machinists; (5) dispatchers, station agents, truckers, loaders, and other employees who aid in train loading and movement, but do not actually operate trains; and (6) train service employees, including yardmasters, switchers, conductors, engineers, firemen, brakemen, flagmen, helpers, and baggagemen. Workers who maintain equipment, stores, structures, and way represent almost 40 percent of railroad employment.

The decline since 1939 in particular groups of Class I rail employees has been even more marked than the decline in the total employment. The two groups showing the greatest reduction were maintenance-of-way employees, with a decrease of about 32 percent, and maintenance-of-equipment employees, down about 23 percent. Some reduction has occurred in the number of transportation service employees, but an increase occurred in the executive, professional, and clerical groups. 6/

The employment structure in the motor carrier industry is simpler than that in railroad transportation. Employees in this industry may be classified into the following six groups: (1) Transportation employees, (2) traffic employees, (3) executives, (4) terminal employees, (5) general office employees, and (6) garage employees. Two groups, transportation and terminal employees, make up about 80 percent of total employment.

Output and Labor Input

Estimated intercity ton-miles of freight per employee have increased for both railroads and trucking lines since 1939 (table 10). Part of the increase in rail ton-miles per employee has been due to the introduction of labor-saving devices which have included longer trains, automatic train control and switching devices, and such maintenance-of-way equipment as ditch-digging machines, spike drivers, and flame throwers for controlling weeds. Among the causes of the gain in truck ton-miles per employee are improvements in highways, more direct routes, and bypasses around cities.

Wage Payments and Labor Costs

Wages and salaries make up an important part of costs of operation of both railroads and trucking concerns. Wages and salaries amount to about 50 percent of revenue for both railroads and motortrucks. This proportion has changed slightly since 1946, decreasing slightly for railroads and increasing for motor carriers. This sizable proportion of revenue represented by labor costs indicates that any increase in wage rates may be an important factor in increasing costs of transportation if they are not offset by gains in ton-miles per employee.

6/ Interstate Commerce Commission, Wage Statistics of Class I Railroads in the United States, 1939 and 1958.

Table 10.--Indexes of annual earnings of all employees, ton-miles per employee, and labor cost per ton-mile, railroad and highway trucking industries, 1939-1958 ^{1/}

(1939 = 100)

Year	Average annual earnings		Ton-miles per employees		Labor cost per inter-city ton-mile	
	Railroads	Highway	Railroads	Highway	Railroads	Highway
		trucking	^{2/}	trucking ^{3/}	^{2/}	trucking ^{3/}
1939	100	100	100	100	100	100
1940	102	102	108	95	95	108
1941	108	107	123	105	88	102
1942	122	122	147	104	83	117
1943	137	141	157	107	88	132
1944	144	156	152	103	95	152
1945	144	167	140	101	103	166
1946	163	181	126	101	129	178
1947	171	201	141	121	122	167
1948	192	221	140	143	137	155
1949	197	233	130	147	152	159
1950	201	251	142	185	141	136
1951	222	259	148	186	149	139
1952	231	276	147	176	157	156
1953	235	297	147	182	160	163
1954	242	304	150	174	161	174
1955	250	321	172	188	146	171
1956	271	333	180	179	150	186
1957	289	346	181	179	159	193
1958	309	360	191	187	163	192

^{1/} Full-time equivalent employees used in calculating earnings, ton-miles per employee, and labor cost. Excluded are estimates of employees engaged only in rail passenger service and trucking employees engaged only in warehousing.

^{2/} Intercity ton-miles include express and mail.

^{3/} Intercity ton-miles of Class I, II, and III intercity common and contract motor carriers of property operating under Interstate Commerce Commission authority.

Based on data from U. S. Department of Commerce, Interstate Commerce Commission, and American Trucking Association.

Average annual earnings of transportation employees have increased steadily since 1933, with a high in 1958 of \$5,803 for railroad employees and an estimated \$5,468 for employees of truck carriers. The increase in average annual earnings has been greater for employees in trucking than in the railroad industry. Annual earnings for specified jobs in railroad and trucking industries are not available.

Since 1939, labor costs per ton-mile in both trucking and railroad industries have increased. Labor cost per ton-mile has been increasing fairly slowly since 1950 for railroads, and has increased about twice as fast for the trucking industry. The proportionate increase in average annual earnings over this period has been about the same for truck and rail carriers; however, the ton-miles hauled per employee have increased more for railroads.

